

REMARKS

I. Introduction

In response to the Office Action dated August 24, 2005, Applicants have amended claim 1 to more particularly point out and distinctly claim features of the invention. Support for this amendment may be found, for example, on page 12, line 25 to page 13, line 14. Claims 6 – 11 have been cancelled. No new matter has been added.

For the reasons set forth below, Applicants respectfully submit that all pending claims are patentable over the cited prior art references.

II. The Rejection Of Claims 1-4 and 6-10 Under 35 U.S.C. § 103

Claims 1-4 and 6-10 stand rejected under 35 U.S.C. § 103 as being unpatentable over USP No. 6,512,543 to Kuroda in view of USP No. 4,862,276 to Wang. Applicants respectfully traverse this rejection for at least the following reasons.

Claim 1, as amended, recites in-part that the number of pixel rows formed by the dummy pixels is obtained by subtracting the number of pixel rows formed by the imaging pixels from an HD number, which is the number of horizontal sync pulses included in one frame interval. At least this feature is not taught or suggested by Kuroda nor Wang, alone or in combination with each other.

In accordance with one exemplary embodiment of the present invention, a reset signal for the electronic shuttering operation is supplied to an arbitrary i^{th} row (where $1 \leq i \leq m$) included in the effective pixel area while a readout operation is performed on another row. For example, while a readout operation is performed on the m^{th} row, resetting for the electronic shuttering operation can be performed on the $(m+3)^{\text{rd}}$ row. According to one aspect of the exemplary embodiment, dummy pixel rows are provided and driven just like the other rows in the imaging section within the

effective pixel area. The number of dummy pixel rows is obtained by subtracting the number of pixel rows formed by the imaging pixels from the number of horizontal sync signals per frame (see, e.g., page 12, line 25 – page 13, line 14).

In the pending rejection, the Examiner expressly acknowledges that Kuroda does not disclose that the number of pixel rows formed by the group of dummy pixels is obtained by subtracting the number of pixel rows formed by the group of imaging pixels from the number of horizontal sync signals included in one frame interval (see, page 6 of Office Action). The Examiner relies on Wang to cure this deficiency.

The Examiner asserts that Wang discloses, in Fig. 7, that the number of pixel rows formed by the group of dummy pixels is obtained by subtracting the number of pixel rows formed by the group of imaging pixels from the number of horizontal sync signals included in one frame interval. Figure 7 illustrates a circuit diagram of a sensing charge injection device. The device appears to include a single row of dummy pixels. The Examiner has not addressed how the number of dummy rows are calculated nor the relationship between the number of imaging pixel rows and the number of dummy pixel rows. It appears that only a single dummy row may be included.

Thus, at a minimum, both Kuroda and Wang fail to teach or suggest that the number of pixel rows formed by the group of dummy pixels is obtained by subtracting the number of pixel rows formed by the group of imaging pixels from an HD number, which is the number of horizontal sync signals included in one frame interval, as recited by amended claim 1.

III. All Dependent Claims Are Allowable Because The Independent Claims From Which They Depend Are Allowable

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819

F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claim 1 is patentable for the reasons set forth above, it is respectfully submitted that all claims dependent thereon are also in condition for allowance.

IV. Conclusion

Accordingly, it is urged that the application is in condition for allowance, an indication of which is respectfully solicited.

If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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